

Environmental Protection Agency

§ 86.1845-04

§ 86.1845-04 Manufacturer in-use verification testing requirements.

(a) *General requirements.* (1) A manufacturer of LDVs, LDTs, MDPVs and/or complete HDVs must test, or cause to have tested, a specified number of LDVs, LDTs, MDPVs and complete HDVs. Such testing must be conducted in accordance with the provisions of this section. For purposes of this section, the term vehicle includes light-duty vehicles, light-duty trucks and medium-duty vehicles.

(2) Unless otherwise approved by the Administrator, no emission measurements made under the requirements of this section may be adjusted by Reactivity Adjustment Factors (RAFs).

(3) Upon a manufacturer's written request, prior to in-use testing, that presents information to EPA regarding pre-conditioning procedures designed solely to remove the effects of high sulfur in gasoline from vehicles produced through the 2007 model year, EPA will consider allowing such procedures on a case-by-case basis. EPA's decision will apply to manufacturer in-use testing conducted under this section and to any in-use testing conducted by EPA. Such procedures are not available for complete HDVs.

(b) *Low-mileage testing*—(1) *Test groups.* Testing must be conducted for each test group.

(2) *Vehicle mileage.* All test vehicles must have a minimum odometer mileage of 10,000 miles.

(3) *Number of test vehicles.* For each test group, the minimum number of vehicles that must be tested is specified in Table S04-06 and Table S04-07 of this

paragraph (b)(3). After testing the minimum number of vehicles of a specific test group as specified in Table S04-06 or S04-07 of this paragraph (b)(3), a manufacturer may test additional vehicles upon request and approval by the Agency prior to the initiation of the additional testing. Any additional testing must be completed within the testing completion requirements shown in § 86.1845-04(b)(4). The request and Agency approval (if any) shall apply to test groups on a case by case basis and apply only to testing under this paragraph. Separate approval will be required to test additional vehicles under paragraph (c) of this section. In addition to the testing specified in Table S04-06 and Table S04-07 of this paragraph (b)(3), a manufacturer shall test one vehicle from each evaporative/refueling family for evaporative/refueling emissions. If a manufacturer believes it is unable to procure the test vehicles necessary to test the required number of vehicles in a test group, the manufacturer may request, subject to Administrator approval, a decreased sample size for that test group. The request shall include a description of the methods the manufacturer has used to procure the required number of vehicles. The approval of any such request, and the substitution of an alternative sample size requirement for the test group, will be based on a review of the procurement efforts made by the manufacturer to determine if all reasonable steps have been taken to procure the required test group size. Tables S04-06 and S04-07 follow:

TABLE S04-06—SMALL VOLUME MANUFACTURERS

49 and 50 State total sales ¹	1-5000	5001-14,999
Low Mileage	Voluntary	0
High Mileage	Voluntary	2

¹ Manufacturer's total annual sales.

TABLE S04-07—LARGE VOLUME MANUFACTURERS

49 and 50 State annual sales ¹	1-5000 ²	5001-14,999 ²	1-50,000 ³	50,001-250,000	>250,000
Low Mileage	Voluntary	0	2	3	4
High Mileage	Voluntary	2	4	5	6

¹ Sales by test group.

² Total annual production of groups eligible for testing under small volume sampling plan is capped at a maximum of 14,999 vehicle 49 or 50 state annual sales, or a maximum of 4,500 vehicle California only sales per model year, per large volume manufacturer.

³ Sampling plan applies to all of a manufacturer's remaining groups in this sales volume category when the maximum annual cap on total sales of small groups eligible for the small volume sampling plan is exceeded.

(4) *Completion of testing.* Testing of the vehicles in a test group and evaporative/refueling family must be completed within one year of the end of production of that test group (or evaporative/refueling family) for that model year.

(5) *Emission testing.* (i) Each test vehicle of a test group shall be tested in accordance with the Federal Test Procedure and the US06 portion of the Supplemental Federal Test Procedure as described in subpart B of this part, when such test vehicle is tested for compliance with applicable exhaust emission standards under this subpart.

(ii) One test vehicle of each evaporative/refueling family shall be tested in accordance with the evaporative emission and refueling emission test procedures described in subpart B of this part, when such test vehicle is tested for compliance with applicable evaporative emission and refueling emission standards under this subpart. The test vehicles tested to fulfill the evaporative/refueling testing requirement of this paragraph (b)(5)(ii) will be counted when determining compliance with the minimum number of vehicles as specified in Table S04-06 and Table S04-07 in paragraph (b)(3) of this section for testing under paragraph (b)(5)(i) of this section only if the vehicle is also tested for exhaust emissions under the requirements of paragraph (b)(5)(i) of this section.

(6) Each test vehicle not rejected based on the criteria specified in Appendix II to this Subpart shall be tested in as-received condition.

(7) A manufacturer may conduct subsequent diagnostic maintenance and/or testing of any vehicle. Any such maintenance and/or testing shall be reported to the Agency as specified in § 86.1847-01.

(c) *High-mileage testing*—(1) *Test groups.* Testing must be conducted for each test group.

(2) *Vehicle mileage:*

(i) All test vehicles must have a minimum odometer mileage of 50,000 miles. At least one vehicle of each test group must have a minimum odometer mileage of 75 percent of the full useful life

mileage. See § 86.1838-01(c)(2) for small volume manufacturer mileage requirements; or

(ii) For engine families certified for a useful life of 150,000 miles, at least one vehicle must have a minimum odometer mileage of 105,000 miles. See § 86.1838-01(c)(2) for small volume manufacturer mileage requirements.

(3) *Number of test vehicles.* For each test group, the minimum number of vehicles that must be tested is specified in Table S04-06 and Table S04-07 in paragraph (b)(3) of this section. After testing the minimum number of vehicles of a specific test group as specified in Table S04-06 and Table S04-07 in paragraph (b)(3) of this section, a manufacturer may test additional vehicles upon request and approval by the Agency prior to the initiation of the additional testing. Any additional testing must be completed within the testing completion requirements shown in § 86.1845-04(c)(4). The request and Agency approval (if any) shall apply to test groups on a case by case basis and apply only to testing under this paragraph (c). In addition to the testing specified in Table S04-06 and Table S04-07 in paragraph (b)(3) of this section, a manufacturer shall test one vehicle from each evaporative/refueling family for evaporative/refueling emissions. If a manufacturer believes it is unable to procure the test vehicles necessary to test the required number of vehicles in a test group as specified in Table S04-06 or Table S04-07 in paragraph (b)(3) of this section, the manufacturer may request, subject to Administrator approval, a decreased sample size for that test group. The request shall include a description of the methods the manufacturer has used to procure the required number of vehicles. The approval of any such request, and the substitution of an alternative sample size requirement for the test group, will be based on a review of the procurement efforts made by the manufacturer to determine if all reasonable steps have been taken to procure the required test group size.

(4) *Initiation and completion of testing.* Testing of a test group (or evaporative

refueling family) must commence within 4 years of the end of production of the test group (or evaporative/refueling family) and be completed within 5 years of the end of production of the test group (or evaporative/refueling family).

(5) *Emission testing.* (i) Each test vehicle shall be tested in accordance with the Federal Test Procedure and the US06 portion of the Supplemental Federal Test Procedure as described in subpart B of this part, when such test vehicle is tested for compliance with applicable exhaust emission standards under this subpart. The US06 portion of the SFTP is not required to be performed on vehicles certified in accordance with the National LEV provisions of subpart R of this part. One test vehicle from each test group shall receive a Federal Test Procedure at high altitude. The test vehicle tested at high altitude is not required to be one of the same test vehicles tested at low altitude. The test vehicle tested at high altitude is counted when determining the compliance with the requirements shown in Table S04-06 and Table S04-07 in paragraph (b)(3) of this section or the expanded sample size as provided for in this paragraph (c).

(ii) One test vehicle of each evaporative/refueling family shall be tested in accordance with the evaporative emission and refueling emission test procedures described in subpart B of this part, when such test vehicle is tested for compliance with applicable evaporative emission and refueling emission standards under this subpart. The test vehicles tested to fulfill the evaporative/refueling testing requirement of this paragraph (b)(5)(ii) will be counted when determining compliance with the minimum number of vehicles as specified in Table S04-06 and table S04-07 in paragraph (b)(3) of this section for testing under paragraph (b)(5)(i) of this section only if the vehicle is also tested for exhaust emissions under the requirements of paragraph (b)(5)(i) of this section.

(6) Each test vehicle not rejected based on the criteria specified in Appendix II to this subpart shall be tested in as-received condition.

(7) A manufacturer may conduct subsequent diagnostic maintenance and/or

testing on any vehicle. Any such maintenance and/or testing shall be reported to the Agency as specified in § 86.1847-01.

(d) *Test vehicle procurement.* (1) Vehicles tested under this section shall be procured pursuant to the provisions of this paragraph (d). Vehicles shall be procured from the group of persons who own or lease vehicles registered in the procurement area.

(2) Vehicles shall be procured from persons which own or lease the vehicle, excluding commercial owners/lessees which are owned or controlled by the vehicle manufacturer, using the procedures described in Appendix I to this subpart. See § 86.1838(c)(2)(i) for small volume manufacturer requirements.

(3) *Geographical limitations.* (i) Test groups certified to 50-state standards: For low altitude testing no more than fifty percent of the test vehicles may be procured from California. The test vehicles procured from the 49 state area must be procured from a location with a heating degree day 30 year annual average equal to or greater than 4000.

(ii) Test groups certified to 49 state standards: The test vehicles procured from the 49 state area must be procured from a location with a heating degree day 30 year annual average equal to or greater than 4000.

(iii) Vehicles procured for high altitude testing may be procured from any area located above 4000 feet.

(4) Vehicles may be rejected for procurement or testing under this section if they meet one or more of the rejection criteria in Appendix II to this subpart. Vehicles may also be rejected after testing under this section if they meet one or more of the rejection criteria in Appendix II to this subpart. Any vehicle rejected after testing must be replaced in order that the number of test vehicles in the sample comply with the sample size requirements of this section. Any post-test vehicle rejection and replacement procurement and testing must take place within the testing completion requirements of this section.

(e) *Testing facilities, procedures, quality assurance and quality control—*(1) *Lab equipment and procedural requirements.* The manufacturer shall utilize a test

laboratory that is in accordance with the equipment and procedural requirements of subpart B of this part to conduct the testing required by this section.

(2) The manufacturer shall notify the Agency of the name and location of the testing laboratory(s) to be used to conduct testing of vehicles of each model year conducted pursuant to this section. Such notification shall occur at least thirty working days prior to the initiation of testing of the vehicles of that model year.

(3) *Correlation.* The manufacturer shall document correlation traceable to the Environmental Protection Agency's National Vehicle and Fuel Emission Laboratory for its test laboratory utilized to conduct the testing required by this section.

(f)(1) A manufacturer may conduct in-use testing on a test group by measuring NMHC exhaust emissions rather than NMOG exhaust emissions. The measured NMHC exhaust emissions must be multiplied by the adjustment factor used for certification of the test group, or another adjustment factor acceptable to the Administrator, to determine the equivalent NMOG exhaust emission values for the test vehicle. The equivalent NMOG exhaust emission value must be used in place of the measured NMHC exhaust emission value in determining the exhaust NMOG results. The equivalent NMOG exhaust emission values must be compared to the NMOG exhaust emission standard from the emission bin to which the test group was certified.

(2) For flexible-fueled LDVs, LDTs and MDPVs certified to NMOG standards, the manufacturer may request from the Administrator the use of a methanol (M85) or ethanol (E85) NMOG exhaust emission to gasoline NMHC exhaust emission ratio which must be established during certification for each emission data vehicle for the applicable test group. The results must be submitted to the Administrator in the Part II application for certification. After approval by the Administrator, the measured gasoline NMHC exhaust emissions must be multiplied by the M85 or E85 NMOG to gasoline NMHC ratio submitted in the application for certification for the test group to de-

termine the equivalent NMOG exhaust emission values for the test vehicle. The equivalent NMOG exhaust emission value must be used in place of the measured NMOG exhaust emission value in determining the exhaust NMOG results. The equivalent NMOG exhaust emission values must be compared to the NMOG exhaust emission standard from the vehicle emission standard bin to which the test group was certified.

(3) If the manufacturer measures NMOG it must also measure and report HCHO emissions. As an alternative to measuring the HCHO content, if the manufacturer measures NMHC as permitted in paragraph (f)(1) of this section, the Administrator may approve, upon submission of supporting data by a manufacturer, the use of HCHO to NMHC ratios. To request the use of HCHO to NMHC ratios, the manufacturer must establish during certification testing the ratio of measured HCHO exhaust emissions to measured NMHC exhaust emissions for each emission data vehicle for the applicable test group. The results must be submitted to the Administrator with the Part II application for certification. Following approval of the application for certification, the manufacturer may conduct in-use testing on the test group by measuring NMHC exhaust emissions rather than HCHO exhaust emissions. The measured NMHC exhaust emissions must be multiplied by the HCHO to NMHC ratio submitted in the application for certification for the test group to determine the equivalent HCHO exhaust emission values for the test vehicle. The equivalent HCHO exhaust emission values must be compared to the HCHO exhaust emission standard applicable to the test group.

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§ 86.1846-01 Manufacturer in-use confirmatory testing requirements.

(a) *General requirements.* (1) A manufacturer of LDVs, LDTs and/or MDPVs must test, or cause testing to be conducted, under this section when the emission levels shown by a test group sample from testing under §§ 86.1845-01 or 86.1845-04, as applicable, exceeds the